

**PATENT COOPERATION TREATY**  
**PCT**  
**INTERNATIONAL SEARCH REPORT**  
(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>02853PC/IDJ</b>	<b>FOR FURTHER ACTION</b>	see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.
International application No. <b>PCT/AU03/01008</b>	International filing date (day/month/year) <b>8 August 2003</b>	(Earliest) Priority Date (day/month/year) <b>8 August 2002</b>
<b>Applicant</b> <b>ALCHEMIA PTY LTD et al</b>		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 5 sheets.

It is also accompanied by a copy of each prior art document cited in this report.

**1. Basis of the report**

a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing:

contained in the international application in written form.

filed together with the international application in computer readable form.

furnished subsequently to this Authority in written form.

furnished subsequently to this Authority in computer readable form.

the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2.  Certain claims were found unsearchable (See Box I).

3.  Unity of invention is lacking (See Box II).

4. With regard to the title,  the text is approved as submitted by the applicant.

the text has been established by this Authority to read as follows:

5. With regard to the abstract,  the text is approved as submitted by the applicant

the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the drawings to be published with the abstract is Figure No.

as suggested by the applicant.

None of the figures

because the applicant failed to suggest a figure

because this figure better characterizes the invention

**Box I Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)**

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1.  Claims Nos :  
because they relate to subject matter not required to be searched by this Authority, namely:
2.  Claims Nos : 1-5 (in parts), 6-21  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:  
Claims 1-5 provide for such a vast number of possible compounds by virtue of the permutations of the variables present that they have not been fully searched. Claims 6-21 are directed to compounds of the invention as defined in Claims 1-5 wherein one or more of the hydroxyl oxygens are protected
3.  Claims Nos :  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a)

**Box II Observations where unity of invention is lacking (Continuation of item 3 of first sheet)**

This International Searching Authority found multiple inventions in this international application, as follows:

1.  As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims
2.  As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3.  As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4.  No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

**Remark on Protest**

The additional search fees were accompanied by the applicant's protest.  
 No protest accompanied the payment of additional search fees.

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/AU03/01008

## A. CLASSIFICATION OF SUBJECT MATTER

Int. Cl. 7: C07H 15/18, 5/06, 23/00

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
STN substructure search

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	Derwent Abstract Accession No. 2002-371191/40 Class B03 US 2002028927-A1 (CHRIST W. J.) 7 March 2002. See whole document.	1-5
X	US 6,184,366 B1 (CHRIST) 6 February 2001 See Claims and Examples; Columns 17-18	1-5, 6-21
X	WO 02/32915 A1 (ALCHEMIA PTY LTD) 25 April 2002 See whole document.	1-5

Further documents are listed in the continuation of Box C       See patent family annex

• Special categories of cited documents:	
"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E" earlier application or patent but published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"I" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search  
3 September 2003

Date of mailing of the international search report

9 SEP 2003

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## INTERNATIONAL SEARCH REPORT

International application No.

PCT/AU03/01008

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0099578 B1 (CIBA GEIGY AG) 1 February 1984 (& US 4,548,923 See column 6, formula III)	1-5
X	MALETIC M et. al., "Preparation of potential inhibitors of the mur-Pathway enzymes on solid support using an acetal linker", Bioorganic & Medicinal Chemistry Letters (2003), 13(6), 1125-1128. See page 1127 col. 2 Fig.2	1-5, 26
X	FUKASE Y et. al., "New efficient route for synthesis of lipid A by using affinity separation", Synlett (2001), (11), 1693-1698. See Scheme 1 compound 3, Scheme 3 compounds 17, 18, and 20	1-5
X	NAKAYAMA K et. al., "Novel peptidomimetics of the antifungal cyclic peptide Rhodopeptin: design of mimetics utilizing scaffolding methodology", Organic Letters (2001), 3 (22), 3447-3450. See page 3448 Fig. 4 compounds 5 and 6	1-5
X	YOSHIZAKI H et. al., "First total synthesis of the Re-type lipopolysaccharide", Angewandte Chemie, International Edition (2001), 40(8), 1475-1480. See page 1477 col. 2 compounds 16 and 17	1-5
X	HANESSIAN S et. al., "Formation of 4-alkoxybenzylidene acetals on solid support and generation of functional diversity with carbohydrate scaffolds", Synlett (1999), (1), 102-104 See whole document.	1-5, 22-24

## INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/AU03/01008

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report		Patent Family Member					
US	6184366	AU	63802/96	CA	2223140	CN	1192216
		EP	853627	HU	9802662	IL	122251
		JP	11506793	NO	975644	NZ	312299
		RU	2170738	ZA	9604666		
WO	02/32915	EP	1326873				
EP	0099578	AT	23536	AU	17218/83	CA	1243305
		CS	8305484	CS	8308406	DD	210058
		DK	3378/83	ES	524386	FI	832639
		GR	79611	IL	69292	JP	59033296
		NO	832691	NZ	205002	PL	243132
		PT	77081	SU	1299516	US	4548923
		ZA	8305357				

END OF ANNEX